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HEALTH

A WEEKLY JOURNAL OF

DOMESTIC AND SANITARY SCIENCE.

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Lie in three words, HEALTH, PEACE, and COMPETENCE."—*Pope.*

EDITED BY DR. ANDREW WILSON, F.R.S.E. &c.

VOL. X.—No. 246. FRIDAY, DECEMBER 23, 1887. PRICE TWOPENCE.
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[The above letter, dated Sept., 1886, is from a medical gentleman in extensive practice in a large city in the North of Ireland.]

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◆ HEALTH ◆

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &c.

LONDON: *FRIDAY, DECEMBER* 23, 1887.

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Notes by the Way

BY THE EDITOR.

"Health is the foundation of all our physical happiness."—*Herder.*

THE occurrence in man of the power of bringing food from the stomach back into the mouth at will, as remarked on a previous occasion, is not an extreme rarity. The power is one analogous to "rumination" or "chewing the cud" in lower animals. A correspondent of the *Lancet* lately gave the following interesting particulars regarding this habit. "My paternal grandfather, who died at eighty-eight, had all his life the power to eject food or fluid from the stomach at will, at any time. My father, who is eighty-one, always had the same gift. So have I, who am forty-nine. When a medical student I have—stupidly, I admit—often swallowed for a wager large doses of narcotic poisons diluted in water, merely retiring for a few seconds immediately after.

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THERE is not the slightest difficulty in the act, and, of course, no nausea. I frequently wash out my stomach in the morning with two or three successive tumblerfuls of cold water, and feel fresher after it; and if at any time troubled with acidity, dilution and ejection are naturally suggested. Now, what voluntary muscles account for this? Could not physiological experiments be made on the Beaumont principle? Not that I want to go in for them; but there must be many similar cases."

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IN reply to this correspondent, Dr. E. Kenneth Campbell wrote that the difficulty is not with regard to the muscles concerned—for vomiting is a coördinated action, the efferent impulses concerned in which proceed from a vomiting centre in the medulla in close connection with the respiratory centre,—but with the independent power of the will to stimulate this centre. We know that some disagreeable sights and smells may readily affect it, and here the will has no control; but in this case the act is preceded by a sensation of nausea, and is therefore probably reflex.

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THE only explanation I can offer is that your correspondent's case is an example of a physiological reversion to an ancestral condition. In the ruminantia the stomach is divided into four compartments, and after the food has lain in that division of it termed the "reticulum" for some time at the will of the animal, the partially masticated food is returned by small instalments to the mouth, and is there thoroughly chewed at leisure, and then swallowed for the second time. It is to be remembered that we all possess a relic of our herbivorous co-ancestry in the presence of an "appendix vermiformis,"—that is a small appendage, apparently of useless character, attached to the *cæcum* or first portion of the large intestine.

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THE faculty of emptying the stomach at will is probably an action depending intimately on both nervous and muscular mechanisms. That it is not natural to mankind admits of no doubt, and Dr. Campbell's suggestion that, like many other points in our history, it is a remnant of the links that bind us to lower life, is neither a far-fetched nor unscientific idea."

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SOME old observations on hydrophobia have lately been quoted in a letter to the *Boston Medical and Surgical Journal* by Dr. Goodale, of the Botanic Garden of Harvard University. Dr. Goodale says, "In the course of my reading, I have chanced upon the following passage, which may prove of some interest to your readers. It is taken from 'Observations on Hydro-

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AND OF ALL CHEMISTS.

phobia,' by James Thacher, M.D., Plymouth, Mass., 1812. It seems as if Dr. Thacher's project was in a fair way of being carried into successful execution, after a lapse of more than seventy years. From p. 300 of the work cited above, the italics standing as in the original: 'Experiments made upon the canine poison in brutes might be considered as an arduous and hazardous undertaking, but it is not to be deemed altogether impracticable, and I will suggest the following project for the purpose.

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"'In the first place, dogs when affected with madness, instead of being killed, should be confined and secured that the disease may run its course, and for the ascertainment of many useful facts connected with its several stages. If experiments on dogs should be deemed too hazardous, let other animals of little value be selected, provided a sufficient number can be procured. Having provided for their security in some proper enclosure, let them be inoculated with the saliva of the mad dog, by the point of the lancet, which would undoubtedly prove as effectual as the dog's teeth.

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"'The animals thus infected, are to be the subjects of various experiments and the most attentive observation. With some, the inoculated part might be cut out at different stages, to ascertain the latest period in which it may be done successfully. To others, various counterpoisons and specific remedies might be applied to the wound and administered internally. In fact, it would be difficult to determine, *à priori*, the extent of the advantages of this novel plan, if judiciously conducted. You may smile at my project, but however chimerical and visionary it may appear, I would rejoice to be the *Jenner* of the proposed institution; though I might fail in realizing my thousands, I could pride myself in being the candidate for the honour, and the author of an attempt to mitigate the horrors attending one of the greatest of all human calamities.' It will be seen from this, says Dr. Goodale, that Dr. Thacher anticipated Pasteur by many years."

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The *Daily News* correspondent in Paris says: Dr. Brown Sequard, who has been preaching that bad ventilation of sleeping rooms, and poor and monotonous food, are the great causes of consumption, treated of that disease at the last meeting of the Academy of Sciences, taking many of his examples from England. Wherever population is dense, and sleeping rooms ill-aired or overcrowded, consumption prevails. Dr. Bailey reported that in Millbank Prison there were, out of 100 deaths, 45 from this disease. According to the illustrious French doctor, a room in which a consumptive person sleeps is reeking with contagious germs, if the air he exhales is not carried off.

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But how get rid of it in ill-built houses or very cold weather, when it is as dangerous to open windows as to keep them shut? To meet this difficulty Dr. Brown Sequard showed the Academy an apparatus of his invention. A reversed funnel, the shape of a lamp shade, is placed at the end of a tube, so arranged in its curves and angles that when it is placed beside a bed the reversed funnel will be above the sleeper, and draw up the air he breathes. The other end runs into the chimney of the room. If there is none, it is taken through a heating apparatus to an air hole. The heat is great enough to cremate the disease germs.

Original Essays

"Life is not to live, but to be well."—*Martial.*

"LIFE IN A WORKHOUSE."

By Dr. W. Curran.

A letter under this heading appeared in the *Echo* of the 19th ult. which is so suggestive in itself, coming, as it does, we assume, from an inmate, that it deserves a wider publicity than it can command in a cheap evening paper. The question of food for the masses is just now a burning one. Moreover, there can scarcely be a doubt that the poverty of this great Metropolis is increasing rather than diminishing, and it is equally certain that the long and apparently gloomy winter we are threatened with will increase these numbers and enhance this present suffering tenfold. This being confessedly so, it is our duty to look the situation sternly in the face and see what can be done. My little contribution towards a solution of the difficulty will be a rehearsal of some experiences I once had of workhouses—not, indeed, like our friend Mr. Cross, as an able-bodied pauper, but as a visitor to a resident in, and, more recently still, as medical officer in charge of a large provincial union. I am glad to be able to say that my own personal acquaintance with the interiors of several of these institutions is rather favourable than otherwise, and this is the phase of the case, or rather of the situation, to which I will address myself in these few lines.

To begin with, I will not, I fancy, be far wrong if I take 100,000 as the measure, be it more or less, of the pauperdom of London at this moment. I speak without book, however, and my old friend Whitaker fails me in this instance. The following paragraph, which I have just cut out of an evening paper, justifies, in some measure, this calculation, and the difference between July and November will readily account for the rest:—

"Metropolitan Pauperism.—Census of Metropolitan paupers, exclusive of lunatics in asylums and vagrants, taken on the last day of the weeks named hereunder (enumerated inhabitants in 1881, 3,815,000):—Fifth week of July, 1887—indoor, 52,875; outdoor, 35,241; total, 88,116. Fifth week of July, 1886—indoor, 51,511; outdoor, 35,158; total, 86,669. Fifth week of July, 1885—indoor, 50,689; outdoor, 33,404; total, 84,093. (Excluding patients in the fever and small-pox hospitals of the Metropolitan Asylums District. The number of these patients on the last day of the week was returned as 633 in 1887, 272 in 1886, and 889 in 1885.) Fifth week of July, 1884—indoor, 51,814; outdoor, 33,239; total, 85,053. Vagrants relieved in the Metropolis on the last day of the fifth week of July, 1887—468 men, 148 women, 23 children under sixteen; total, 639."

This "rest" or residuum is the crux of the situation, for 'tis the pace that kills in workhouses, as well as elsewhere; and it is indeed pitiful, as I can well testify—and

Jensen's Cod Liver Oil is acknowledged as the best because it is the only Oil made from absolutely fresh Livers. It prevents all Coughs, Colds, Asthma, Bronchitis; it makes the Digestive Organs act, and is the only remedy of any value in cases of Consumption; it is sweet and pleasant—cannot by any possibility cause any aftertaste, while all its nourishing virtues are retained. Of all Chemists, &c., in bottles, each Wrapper bearing the Registered Trade Mark (an Iceberg) if genuine, at 1s., 2s., 3s. 6d., and 6s. 6d.; or, post free, of Hertz & Collingwood, 101, Leadenhall-street.

as the local dead-houses and undertakers are also witnesses of—to note the terrible rush, the cruel sufferings, and the rapid (often on that account, fortunately, painless) endings of those poor houseless or half-starved wretches whom the pinch of poverty, as well as the more pitiless pelting of the storm without, drives to these shelters.

But let us hear what our correspondent has to say on the subject, and see how far his complaints are well-founded or *vice versâ*. The extract is, unfortunately, a long one, but it deals so exhaustively with that feature of the question, viz., the dietary—with which alone I am concerned here—that I must ask my readers to excuse it. Nothing is beneath our notice that contributes, in however small a degree, to alleviate the sufferings, relieve the hunger, or otherwise promote the comfort of our suffering poor.

"To deal in the first place with the diet, that being in the eyes of hungry men of paramount importance. Breakfast throughout the week consists of six ounces of dry bread and one pint of water gruel. Dinner: Monday and Friday, four ounces of bread and one pint of rice soup, consisting of two ounces of fresh beef before boiling, rice and vegetables added. Tuesday and Sunday, five ounces of beef boiled and twelve ounces of potatoes. Wednesday, four ounces of bread and one pint of pea soup, consisting of two ounces of fresh beef, peas and vegetables added. Thursday, five ounces of compressed tinned meat (cold) and eight ounces of potatoes. Saturday, fourteen ounces of baked rice pudding. These last two meals are regarded by all as the least satisfactory, being both insufficient and innutritious. The time was when the Thursday dinner was both comforting and satisfying, and was much appreciated alike by the aged and men under sixty. The Local Government Board's dietary table prescribes Irish stew for that day, but a short time ago the master of a neighbouring workhouse in connection with this, on sudden moment, conveyed to the inmates that, as no potatoes were mentioned, he failed to see how he could supply them for the stew, and in the absence of the under-aged men from the dining hall, by some sophistry or other, got the aged men to consent to receive the other rations substituted. They soon found, however, that they had lost by the change, four ounces of bread, a fair quantity of pot herbs, and last, though not least, a warm and cheering meal; and were they fairly canvassed would be in a large majority for the return of the Irish stew. I believe, Sir, it cannot be an Irish stew without potatoes in its composition. When the Local Government Board gave the diet they did not think it necessary to mention vegetables, they doubtless took it for granted it would be known what they meant by a stew.

"Saturday's meal, too, was at one time suet pudding, in lieu of the present rapidly digested rice, and as the next meal is six hours after, the return of the old order of things would be greeted with no small satisfaction. Pardon this digression. I will now return to evening meal—Supper: Monday, Wednesday, Thursday, and Saturday, six ounces of dry bread and one pint of water gruel. Tuesday, Friday, and Sunday, six ounces of bread and one pint of broth, supposed to consist of three ounces before boiling, of fresh beef, rice, haricot beans, and vegetables. The gruel is made palatable by using salt and pepper, adds comfort to the soups, &c. Yet, Sir, good as this dietary looks upon paper, I am sorry to say it is far from being sufficient to a man with a healthy appetite. Under every circumstance, the most bitter weather not omitting, there are but three meals per diem, and then the hours, too, between each, half-past seven till twelve, and again till six o'clock, make men feel faint and listless, and after being subjected to this mode of living a short time, become painfully pinched, wasted, and lose weight, so that on leaving 'the house' they have diminished strength to fight against their more burly antagonists in the struggle for bread. Clothing, too, might be warmer; all one wears is composed of cotton jackets, vest, trousers, shirt, stockings, with no extra quantity. If you were here in the dog days, you have the same as in the most inclement season of the year, and should you on entering be the happy possessor of a pair of drawers, you will be allowed to wear them during your stay, as that garment is not supplied; and as for washing your own, why, you must do the best you can for yourself, and run the risk of a severe cold, if nothing worse, while they are drying."

This can scarcely be called a bad diet, the worst that can be said of it is that it is a poor diet, and especially so for a working man. It is certainly "far from being sufficient for a man with a healthy appetite." It is also very monotonous, the absence of fish and bacon is much to be deprecated, and the fatty and saccharine ingredients are clearly insufficient. It compares badly with the scale laid down by the late Dr. Parkes as a standard diet for a male European adult, of average height and weight, who is in moderate work. Here is his scale, and simply intimating that this is dry food, which contains little more than 50 per cent. of water, I will leave the reader to draw his own inferences. My object here is to institute a rough and ready comparison between the dietaries of our workhouses, &c., and the kitchen stuff on which, so far as I know it, our outdoor poor are regaled, and a few casual allusions to our soldiers' or prisoners' diet must complete the picture:—

Water-free Substances Given Daily.	Ounces Avoir.	Grammes.	Remarks.
Albuminous Substances.....	4·587	130	Assuming the water-free food to be 23 ounces, and a man's weight to be 150 pounds, each pound weight of the body receives in 24 hours 0·15 ounces, or the whole body receives nearly 1-100th part of its own weight of the various materials that go to build it up.
Fatty Substances	2·964	84	
Carbo-Hydrates.....	14·257	404	
Salts	1·058	30	
Total Water-free Food.	22·866	648	

Passing over some of the other statements or complaints of the above letter as being either irrelevant to our issue or as being necessitated by local circumstances, I agree with him (the writer) in thinking that cold food ought never to be made do duty for warm food during the winter in this climate. The superiority of the latter has been proved on many a hard fought field, as well in our own wars as in those of America, France, Germany, and Russia, and there can be no doubt about the fact that Irish-stew—a capital dish, by the way, for a mixed gathering—cannot be made without potatoes. The pedantry that thought otherwise is much to be deprecated.

As to the eating hours they are, I think, badly arranged. Half-past seven is certainly too early for breakfast, and I prefer giving the inmates, if I could, a cup of hot coffee, milk, or even tea, at seven, and deferring the breakfast to half-past eight. The dinner also I would delay somewhat, but three meals are, to my thinking, enough for any ordinary mortal in any and every ordinary day, and as to meat-suppers (meat in any shape after 8 or, at at the very latest, 9 p.m.), they are, to me, the abomination of desolation.

(*To be concluded.*)

"EX LUCE LUCELLUM."

A Short Account of the Chemistry, History, and Manufacture of Lucifer Matches.

By E. Godwin Clayton, F.I.C., F.C.S.,
Member of the Society of Public Analysts, &c.

FIRST PAPER.

From the earliest ages methods for the artificial production of light and heat have been used by man, but until a comparatively recent date these methods were of a very crude and imperfect description. The nineteenth century, however, which has witnessed the application of steam to the purposes of locomotion, the employment of coal-gas as a lighting agent, the introduction of the electric telegraph, the electric light, and the telephone, together with the invention and subsequent amazing development of photography, has also brought forth the lucifer match.

Trivial and insignificant as the common "lucifer" may seem, because of our familiarity with it as an object of everyday use, we should remember that, in reality, this little companion of our lives is, considered in many ways, of immense importance. What should we do without the lucifer match nowadays—when even the boy burglar is not completely equipped without his dark lantern and box of silent vestas, and the little schoolboy, longing to experience the effects of his first penny Pickwick, prepares by investing his spare cash in some flaming vesuvians! Seriously, the importance of the common match becomes very manifest when we consider what loss of time, annoyance, and positive suffering would be entailed were we forced to return to the flint, steel, tinder-box and brimstone matches which were still almost universally in vogue during the first quarter of the present century.

In those days the shivering servant-maid would endeavour, for perhaps half-an-hour on a winter's morning, to ignite the tinder in her box, preparatory to lighting the kitchen fire. If the tinder-box had been kept in a damp place, this was sometimes a matter of great difficulty, and one which required more patience and perseverance than we are now inclined to credit. When the tinder was at last ignited with a spark produced by repeated friction of the flint against the steel, the next step was to assiduously blow the tinder until a considerable portion of it was glowing. This part of the operation was particularly unpleasant, the contents of the tinder-box generally having a very disagreeable odour, which was increased tenfold when a brimstone match (a rough splint of wood tipped with sulphur) was kindled by being brought in contact with the incandescent tinder.

Such, in the days prior to the introduction of lucifer matches, was the process to be gone through, in a cold kitchen on a frosty morning, late at night in one's bedroom, and whenever or wherever it was desired to produce a flame where no flame was previously at hand. In these days, fortunately, *nous avons changé tout cela*, and a box of matches is an indispensable in every household, however poor or small. It is carried in the pocket of every smoker, and is almost the first thing the tourist asks or looks for in an hotel bedroom. What a priceless boon has a lucifer match proved under certain circumstances! This is forcibly illustrated by a scene in one of M. Jules Verne's novels, "The Mysterious Island," where a single match, left by chance in the lining of the waistcoat of one member of a shipwrecked crew is practically the cause of the lives of the whole party being saved.

That the lucifer match is of far greater importance than may at first sight appear can also be demonstrated in other ways. The annual value of the matches manufactured in Great Britain probably amounts to at least two millions and a half sterling, while not less than 560,000,000 boxes of ordinary matches, and 45,000,000 boxes of wax lights and vestas are produced each year in this country alone. The larger firms will produce as many as from 80,000,000 to 100,000,000 matches *per diem*. Lucifer matches afford a means of living to tens of thousands of men, women, and children. Not only do the greater match factories require 2,000 or more employés, but the streets of our towns are traversed by an army of individuals, many of them boys, who make what they live upon by the sale of wax vestas, fusees, and common lucifers. Many readers will remember what a storm of opposition was raised in 1871 to the proposal of the Right Honourable Robert Lowe (then M.P. for London University, now Viscount Sherbrooke) to tax and stamp boxes of matches. The stamp was to have borne the appropriate motto which has been chosen as the title of this article: but "Man proposes, God disposes," and Mr. Lowe's measure never became law. In fact, to quote from a speech delivered by Mr. Osborne Morgan, on May 1st, 1871, the proposer of this bill had "burnt his fingers with lucifer matches." It was very generally felt that the proposed tax would press with especial severity upon the poor match-sellers, a section of the population utterly unable to bear such a burden.

Although the lucifer match is, as already pointed out, an invention of the past fifty years, we are indebted to a chemical discovery made more than two hundred years ago for the character of the match as we now meet with it. In the year 1677, various European sovereigns, including our own king Charles II., were shown as a great curiosity a very wonderful and costly substance, which had been discovered four years previously by the alchemist, Brand, of Hamburgh. The substance was *phosphorus*, and its exhibitor was Krafft, who had purchased the secret of its preparation from Brand. Krafft appears to have communicated his knowledge to Kunkel, who in 1678 published a pamphlet on the new body, with the title, "*Offentliche Zuschrift vom Phosphor Mirabile und dessen leuchtenden wunderpilulen.*"

Our illustrious countryman, the Hon. Robert Boyle, F.R.S., was acquainted with the discovery of this marvellous substance, and he set to work in an endeavour to produce it himself. After much labour (and with no information from Krafft as to the mode of preparation of the new element beyond a statement that it was obtained from an animal source), he succeeded in the year 1680 in making it. Boyle obtained phosphorus from urine by a method similar to that employed by Brand and Krafft; and he contributed an important paper on the subject to the philosophical transactions of the Royal Society for the year 1680.

The manifold labours of Robert Boyle in this and other directions are panegyrised in a letter written by his intimate friend, John Evelyn, of Wotton, author of "Sylva" and many other works. Shortly after Boyle's decease, Evelyn wrote of him: "It must be confess'd that he had a marvellous sagacity in finding out many usefull and noble experiments. Never did stubborn matter come under his inquisition but he extorted a confession of all that lay in her most intimate recesses; and what he discover'd he as faithfully regis-ter'd, and frankly com'unicated; . . . He brought the phosphorus and anteluca to the clearest light that ever any did, after inumerable attempts. It were need-

lesse to insist on particulars to one who knows them better than myself." The following quaint account of an experiment with phosphorus, made in the year 1685 at the house of Mr. Samuel Pepys, then Secretary to the Admiralty, is given by Evelyn in his diary. "Dining at Mr. Pepys's, Dr. Slayer shewed us an experiment of a wonderful nature, pouring first a very cold liquor into a glass, and super-fusing on it another, to appearance, cold and clear liquor also; it first produced a white cloud, then boiling, divers corruscations and actual flames of fire mingled with the liquor, which being a little shaken together, fixed divers sunns and starrs of real fire, perfectly globular, on the sides of the glasse, and which there stuck like so many constellations, burning most vehemently, and resembling starrs and heavenly bodies, and that for a long space. It seemed to exhibite a theorie of the eduction of light out of the chaos, and the fixing or gathering of the universal light into luminous bodys. This matter or phosphorus was made out of human blood and urine, elucidating the vital flame or heate in animal bodys. A very noble experiment."

Phosphorus is the principal substance employed at the present time in the lucifer match manufacture: but for nearly a century and a half after its discovery, it appears to have been regarded merely as a scientific curiosity, and as too dangerously inflammable a substance to be put to any general and practical use. The name, "phosphorus" (*φῶς*, light, and *φέρω*, I bear), was originally applied to *any* material possessing the property of emitting light in the dark ("phosphorescence"); and the body prepared by Brand, Krafft, and Boyle was distinguished by the appellative, *phosphorus mirabilis*, or *igneus*. During the 18th century it was called Brand's, Boyle's, or English phosphorus — the latter name being given to it because it was prepared for a long time, and sold in small quantities by one Godfrey Hanckwitz (who had been assistant to the Hon. Robert Boyle), at his laboratory in Southampton-street, Strand.

FILLING WOOD AND REMOVING OLD PAINT. — The *Carriage Monthly* tells its readers how to remove varnish from a panel after it has pitted, and has stood so long that it is too hard and dry for turpentine to soften it, but too wet for the stone to rub it. A good way is to run over it lightly with spirits of ammonia. Do not let the ammonia remain too long on the varnish before you use the scraper on it, as it will be likely to eat through and affect the under coats. The object to be gained is only to take off the pitted coat. After removal, wash off with Castile soap and water. Let stand an hour or two to enable the under coat to get hardened. Again rub down with rag and pumice stone lightly, and then revarnish. It would be better, if the time will warrant it, to coat over again with a light wash of rubbing varnish, to guard against a possible repetition of the pitting. From the same source we are told how to stop the grain in polished wood with simple ingredients. Take a small quantity of white beeswax, melt it down, and, while liquid, mix with whiting. As it gets thick, keep adding boiled oil until you have it as you wish it. When using it, sheet the wood over solid. Let stand until the next day, when you can remove the surplus by using No. ½ sandpaper. It is cheaper and easier than the shellac, and can be levelled sooner, leaving nothing but the pores or grain of the wood filled, which is better than having your wood all stained up with the shellac.

Personal Health

"Be timely wise;
With health all taste of pleasure flies."—*Gay.*

PALE FACES.

WHOEVER exhibits a pale face, palid lips, and the white of the eye tinctured with blue has poor blood, no matter whether he or she be stout or thin. Sometimes the pale face signifies that its possessor enjoys too little sunlight or pure air, and sometimes that the blood is being poisoned with the products of the body, imperfectly excreted. It answers our purpose, then, to speak of pale faces with and without constipation.

Pale faces are most commonly seen in young girls about fifteen or twenty years old and in women in middle life, in both cases usually accompanied with constipation. Now, it may be laid down as a rule that a pale face will not be made a rosy one by any treatment which does not directly deal with the constipation. It may be further added that the constipation will not be benefited, but aggravated, by the purgative pills encountered on every hand. Purgatives generally relieve only temporarily, and leave the victim worse off than before.

A curative plan is that which designs to tone the intestinal walls and restore the secretions at the same time that the constipation is daily overcome. Two of the safest laxatives are Cascara Sagrada and castor oil, but the oil is not often admissible, on account of the aversion many have to it; besides, it is only paliative, not curative. With the Cascara the case is different. In the *Therapeutic Gazette* for March of this year is given a report of a trial of the drug in fifty cases of constipation. The drug was successful in forty-three cases. After a little the dose was gradually reduced, and in no instance was it found necessary to increase the dose on account of the drug losing its effect. The reader should be cautioned against the general run of the preparations of Cascara, as they are variable and sometimes almost inactive. We can confidently recommend the Cascara Tabloids.

While the removal of the constipation is a point gained, yet in the type of cases under consideration something more must be done. Iron should be given. The nutritive functions of the system should be given an impulse, and if the bowels are kept open, nothing will do this like iron. But iron alone will be useless. The Elixoid of Beef and Iron Wine is a capital restorative, and for pale-faced young girls nothing can surpass it. For the matron in mid-life, stout and pale-faced, who indulges overmuch in tea and bread, meat is the prime food required.

It is a noticeable and noteworthy fact that this class of patients dislike fats, or, rather, do not eat much oleaginous food. Yet the tendency of everyone is to become constipated as soon as the fat in the food is lessened. The older teachers in dietetics used to recommend olive oil on going to bed. We would recommend a modicum of the Kepler Solution of Cod Liver Oil with each meal.

For pale-faces without constipation the above treatment is *apropos*, save that Cascara need not be included.

MR. READMAN, B.Sc., F.R.S.E., F.C.S.,
Analytical and Consulting Chemist,
INDIA BUILDINGS, EDINBURGH.
Foods, Drugs, Sanitary Analysis, &c. Special attention is devoted to the Examination and Analysis of all descriptions of Water.

ON TOILET SOAPS AND TOWELS IN HOTELS, CLUBS, AND OTHER PUBLIC PLACES.

DESPITE the vast improvements in the management of hotels and clubs, there are still many defects and drawbacks which, though they may seem of practical insignificance, are in reality of deep importance to the public. Chief among these may be mentioned the toilet soap furnished the patrons in their bedrooms and baths, and the temporary guests in the wash-rooms. As a general rule, it may be said that no hotel uses even decent soap. The writer has had a wide experience among the great establishments of New York, and in only two has found a toilet soap that was really of superior quality. Of English hotels and clubs the same remark holds good. Many proprietors purchase cheap Castile and poor cotton seed oil soap by the hundred bars, and cut these into convenient cakes. They cleanse well and generally are free from coarse perfumes and poisonous colouring matters.

But nearly all brands of this class are poorly made and strongly alkaline. They not only attack the skin and eventually produce sores, but they also irritate the mouths of the pores and eat into the glands and the oil they contain. Their use gives a clean skin, but one that is dry, rough, and inelastic. Frequently, after a few days, dried white patches rise and fall off, the lips and nostrils chap, and a general feeling of uneasiness and even positive discomfort results.

Worse than these are the cheap and nasty toilet soaps so much in vogue. They are made from rancid vegetable oils and half-decomposed acid animal fats with impure alkalies, in the shortest time and the cheapest manner possible. To cover up their foulness or poor workmanship, the manufacturer colours them with brilliant dyes or very dark dyes, and with the rankest essential oils the market affords. A cake taken from a second-rate house is a good case in point. It has a neat oval form, a strong but pleasant odour, lathers freely, and is of a handsome rich brown hue. To any but an expert it would appear a superior article, while to a hotel proprietor it offers, besides all these attractive qualities, the far more fascinating element of extreme cheapness.

Careful examination and analysis show that the brown colour conceals a slovenly workmanship which would otherwise be exposed, in irregular masses of varying shade and consistency, and that the strong essential oils serve to smother a rank smell of putrefaction and nauseating raw materials. The amount of the oils is so large as to act as a rubefacient and even an irritant upon the skin.

The writer once experimentally rubbed it on his face and allowed the thin saponaceous film to remain ten minutes before washing it off. On its disappearance, he found the cuticle covered by numerous red points intermediate in appearance between acne and eczema, which lasted twenty-four hours before the face resumed its natural appearance. Such toilet soap applied to women of fine complexions, but of sensitive skins, would ruin their appearance in less than a fortnight, and would, in the long run, produce a condition of the cuticle which would require weeks of medical treatment to restore to its pristine state. Far worse would be its use upon babies and young children. Their skin is finer and more delicate than can be easily described. Irritated by such soaps, it would break out into painful eruptions, and in a short while thereafter into running sores. The true remedy is to employ a pure unadulterated soap, whereof Bayley's Spermaceti and the other brands of this house are good examples.

The evils described apply chiefly to the bedroom and bath-room. Those of the public wash-room are far worse. Here a larger cake is employed, and almost invariably one whose workmanship is so inferior that with the slightest use it becomes pulpy or sticky. In this condition it does all the harm mentioned, and besides this it may act, and frequently does act, as a vehicle for disease virus and disease germs. A person suffering from a skin complaint or from some blood disease which manifests itself in cutaneous disorders, ulcers, or other sores, uses the cake, and by the mere friction of rubbing, loosens scales and pieces of diseased matter which are retained by the glutinous surface of the soap. These may or may not contain the virus or the germs referred to. If they do, the next person who uses that cake runs a serious risk of absorbing the contagion and becoming a sufferer from the same disease.

So bad are matters in this regard that the only safe rule for a person solicitous for his health is to never use the soaps supplied by hotels for patrons and guests, but to always carry his own with him, or to try a fresh cake, no matter how great the temptation may be to use that which is freely offered him in places of public resort.

More objectionable yet are the unwieldy roller towel, and the long and broad towels of the wash-room. These under any and all circumstances are a disgrace to the house that uses them, and an insult to its customers. The towel removes moisture from the face and hands by rubbing. The friction does more, however, than remove moisture. It forces off scales, pieces of dead skin, lymph from cuts and abrasions, mucus from the nostrils, perspiration from the pores, pus from sores and ulcers, and anything liquid that may be excreted from the body or may have been thrown upon the surface. The fibrous and interlaced structure of the towel makes it a marvellous receptacle and catch-all for these varied substances. They remain in its interstices until it is washed, and even long after, unless it is thoroughly boiled and rubbed with strong laundry soap or treated with javelle water or chloride of lime.

It is all very well for the first man who applies a towel of the class mentioned to his face and hands. The second man runs the risk, and the risk increases arithmetically with each user. As nearly one man in fifty suffers from some contagious or germ disease, and as these hotel and saloon towels average 200 users a day, it is clear that every one toward the end of its daily career is in all probabilities a source of danger and disease. It is better to go with a dirty face and soiled hands than to use such apologies for decency. It is a thousand times better for proprietors to supply unlimited small linen or cotton napkins, which once used are consigned to the laundry, as in clubs, or the inexpensive Japanese paper cloths, which once employed are thrown away into the ash barrel.

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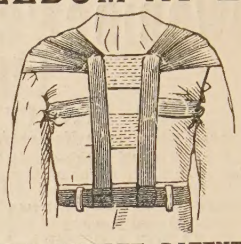

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Vide "HEALTH," *April 8th*, 1887.

HÆMORRHOIDS (or PILES).

BAYLEY'S REMEDIES.

The Family Circle

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"In bringing up a child, think of its old age."—*Joubert.*

THE HISTORY OF A SCARLET FEVER EPIDEMIC.

FIRST PAPER.

At a recent meeting of the Medico-Chirurgical Society of Edinburgh, Dr. Foulis gave the following account which teems with details possessing a high practical bearing on public health:—Dr. Foulis said: Sir Thomas Watson has truly said that "scarlet fever possesses the bad eminence of being the least uniform, the most unmanageable, and by far the most terrifying and deadly of all the exanthematous group." In speaking of the mortality of this disease, he says that "in eighteen years—from 1847 to 1864 inclusive—there died of scarlet fever in England and Wales 318,122 persons, giving an annual death-rate of 17,673. In the year 1869 it destroyed 27,641 lives, and in the year 1870 it destroyed 31,910 lives."

Scarlet fever is the very type of what has always been, and still is, regarded as a contagious and infectious disease. The disease itself must be transmitted from the sick to the healthy by a specific poison. Experiments and observations prove that this specific poison is contained in the secretions of the skin and throat, and in the breath and in the discharges that escape from the nose and mouth in some cases. There is no evidence to show that the disease ever arises spontaneously. The specific poison always comes from the specific poison. It may be distributed among ourselves and our children in a hundred different ways. When sudden epidemics of this disease come upon us, we must look to the air we breathe, to the liquids we drink, and to the food we eat, as the most likely vehicles by which the poison has been distributed. In the medical journals of the day we see recorded the histories of epidemics of typhoid fever, of diphtheria, and of scarlet fever; and it has been very frequently shown that these epidemics, in each case, have arisen from the use of some common article of food, such as water or milk.

In Dr. Aitken's "Science and Practice of Medicine," seventh edition, vol. I., p. 513, there is recorded a very remarkable instance of scarlet fever infection by means of milk:—"A succession of cases of scarlet fever occurred in a college connected with the University of St. Andrews several years ago. Servants were the first sufferers, then students. Some of the latter went away, carrying contagion with them, and occasioning fresh outbreaks; but the succession of cases in the college, where isolation and disinfection had been practised, was at first very perplexing. Scattered cases occurred in the town, also in families having no communication either with the college or with one another. At last it was found that the infection had been brought from a farm that supplied the several habitations with milk. This farm was a small one. The farmer's wife with one child visited a distant place where they were exposed to scarlet fever, and brought it home with them. The wife appears to have suffered very slightly. She nursed the child and milked the cows. A second child took the disease and continued the infection. The boy who carried out the milk was next infected, and on him the fever was so slight that it never prevented him from accomplishing his daily round. On making out a list of the houses in which scarlet fever showed itself in St. Andrews, and on asking the farmer for a list of those to which he sent milk, the two were found to be identical. With one exception the inmates of every house supplied with the milk had been attacked by the disease, and twenty-six cases and two deaths were directly traceable to this centre of contagion." In this case, it appears to me, there is not the slightest doubt that the milk was the vehicle by which the specific poison of scarlet fever was conveyed from a centre and distributed among a number of people living widely apart from each other.

As you all know, we have just had a very severe epidemic of scarlet fever in Edinburgh, which has brought misery and death into many houses in this city. During the twenty-eight days of February of this year 1887, 597 cases of scarlet fever were reported to Dr. Littlejohn. Of these 386 cases occurred in the New Town, 145 cases in the Old Town, and 66 cases in the South Side. On the morning of the 10th of February I was called to a house in Ainslie-place to see three young persons down with scarlet fever of the worst type. These three children were all apparently in the best of health at six o'clock the night before—that is, on the evening of the 9th February. One of the young persons was a page boy who lived on the kitchen flat of the house. The other sufferers were a little boy and girl, aged 7 and 5 respectively, and slept at the top of the house.

When I saw them early on the morning of the 10th February, the three patients were in high fever, and delirious. Little or no rash was to be seen on any part of their bodies; the throats in each case were deep crimson. The children upstairs had supped on bread and milk at 8 o'clock on the night of the 9th, and the boy downstairs had also the same night supped on some of the same milk. The nurse who looked after the children next day was also found to be suffering from scarlet fever; and in a day or two the mother of the children, who would insist on nursing the latter, also took the disease in its worst form. The nurse and page boy were removed to the hospital and eventually recovered; the two children died; but the mother recovered after a great struggle. As the three young persons who were first struck down were apparently in the best of health at 6 o'clock in the evening of the 9th of February, it seemed as if they had been poisoned during the night, for they were so dangerously ill early on the morning of the 10th. After the most careful inquiry, it was found that bread and milk were the only articles of food in common between the three sufferers prior to the attack, and there was no history of their having been at any time exposed to scarlet fever infection. The milk they drank on the evening of the 9th February came from a milk shop in in the West End, which I shall call by the letter X.

As soon as my visit to these children on the 10th was over, I had to hurry off to Douglas-crescent to see for the first time three grown-up young ladies with severe scarlet fever. In the afternoon I had to go back to the same house to see three grown-up young men, brothers of the ladies, who were now also down with scarlet fever. The whole six persons were in good health the previous day, and now on the 10th of February they were all down within a few hours of each other with bad scarlet fever.

What had they in common? There was no history of exposure to scarlet fever. It is very rare, indeed, that one hears of six persons in the same family all sitting down to a breakfast of porridge and milk, but such was the case with this family. Each morning they all eat porridge and milk from a common dish. On inquiry where the milk came from, I found it was obtained from a milk shop in the West End, quite close to the milk

shop X. I shall call this second milk shop Y. During the next few days several other cases of scarlet fever came under my care, and in each case the patients were apparently in good health the day before the disease showed itself. In every case I found out where the milk supplied to my patients came from. Whenever I heard of a case of scarlet fever occurring among my friends and acquaintances, I made every inquiry as to the source of the milk used by them, and in this way I found out that quite forty cases had obtained milk from three milk shops —X. Y. Z.—all in the West End of Edinburgh.

I must now ask you to look carefully at the picture which I shall throw on the large screen before you by means of the oxy-hydrogen lantern. This picture is an enlarged photograph of the return of intimations of scarlet fever during the month of February. If you run your eye down the first two columns of the table, you will see that in the New Town during the first nine days of February there were but eighteen cases of scarlet fever reported to Dr. Littlejohn; but, all of a sudden, there is a remarkable rise in the number of cases reported daily.

Return of Intimations of Scarlet Fever During the Month of February, 1887.

Date.	New Town.	Old Town.	South Side.	Total.
1	2	8	4	14
2	4	9	2	15
3	4	3	2	9
4	2	7	...	9
5	2	3	2	7
6	...	6	1	7
7	1	4	1	6
8	1	3	4	8
9	2	9	...	11
10	8	8	3	19
11	12	...	...	12
12	33	4	2	39
13	31	4	...	35
14	51	2	3	56
15	52	3	3	58
16	42	12	1	55
17	13	6	1	20
18	17	9	3	29
19	10	9	3	22
20	7	3	2	12
21	3	6	5	14
22	12	5	2	19
23	12	...	6	18
24	22	4	1	27
25	12	3	3	18
26	14	7	10	31
27	11	4	...	15
28	6	4	2	12
Total ...	386	145	66	597

On the 10th there were 8 cases reported.
,, 11th ,, 12 ,,
,, 12th ,, 33 ,,
,, 13th ,, 31 ,,
,, 14th ,, 51 ,,
,, 15th ,, 52 ,,
,, 16th ,, 42 ,,
,, 17th ,, 13 ,,

From this table we learn that there were but eighteen cases of scarlet fever in the New Town during the first nine days of February, and that in the next eight days—*i.e.*, from the 10th to the 17th inclusive—there were 242 cases. This rise in the number of cases is very remarkable, and there must have been a cause for it.

A FATAL case of mushroom poisoning occurred last week at Bexley. The opinion of the medical man was that the deceased had eaten what are commonly known as "horse" mushrooms, which have noxious properties.

DISTILLERY-MILK.

A CORRESPONDENT of *Science* says: After the grain is mashed (corn comprises three-quarters of the grain used), it is cooled and run into the fermenting-tubs, where the yeast is added. The period of fermentation is seventy-two hours the first three days in the week, and ninety-six hours the last four days, which include Sunday; this length of time being considered by the Government sufficient to ferment all of the saccharine. It is during this period that the acetic acid is formed, unless very great care is taken. It does not necessarily follow that acetic acid appears, but acetic fermentation occurs more often than otherwise.

At the expiration of the fermenting period, the "beer" (the entire mass in fermentation) is run through the "still" at a temperature supposed to evaporate all the alcohol and fusel oil; which vapour is run into a worm from the top of the still, and the "slops" run from the bottom of it. The mash or beer can be distilled so as to leave little, if any, alcohol or fusel oil in the slops, or feed; but in general practice there is a trace of alcohol and fusel oil left in the feed.

I have tested slops coming from a still when the instrument varied from 0 to 3 per cent. alcohol. No test was made for fusel oil. So large a per cent. of alcohol as 3 per cent. is unusual, and it would be found very unprofitable to the distiller. The slops are fed to the cows while hot. Each cow's ration is thirty-six gallons a day. If the water was evaporated from that quantity of slops, it would leave about twelve pounds of grain; or, in other words, there is 2,400 per cent. more water than grain in the slops.

With the entire system in practice to-day, the food is not desirable for milch cows, but it might be made so. But the sanitary conditions at Blissville and Chicago were a thousand times more harmful to the cows, and necessarily to the milk also, than the food upon which they were fed. I speak from observation of cows under good and bad sanitary conditions and care, fed on distillery slops.

The Germans would be horrified to see any kind of animals surrounded by the conditions at the places named. Europeans excel Americans in the sanitary condition and care of their stables and stock, &c.

Our general system is not only wasteful, and based on false economy, but the quality of milk is not up to a proper standard. As a matter of fact, the milk supplied to New York City is inferior (much of it is unwholesome, and unfit for use) to that of any city in Europe.

The question of still-fed milk is of little moment as compared to milk from so much greater quantity of other and more injurious feed, now in general use, and as compared to the sanitary conditions and treatment of the cows, stables, and milk, and the water the cows consume—one of the most important elements in dairying. There is not one well in a hundred that furnishes pure water.

Brewers' and glucose grains are shipped into the country by millions of bushels annually. Brewers' grains are good feed for milch-cows if fed the day they are produced. Glucose grains, with the sulphuric-acid treatment necessary in the factory, are injurious to both cow and milk. These grains are sent into the country wet and hot, fermenting, souring, and spoiling as they go. So the farmers' cows, with every shipment, have feed in a state of fermentation, often rotten, and fit only for the dung-hill. Distillers' slops, as fed, have undergone fermentation, while the grains are fed while fermenting—a strong point in favour of slops.

Public Health

"Health is the first Wealth."—*Emerson.*

COLOUR-BLINDNESS AMONG AMERICAN RAILROAD EMPLOYÉS.

By William Thomson, M.D.

Professor of Ophthalmology in the Jefferson Medical College of Philadelphia.

The conflict between the officers and the employés of the Reading Railroad, with its forty-two thousand employés on three thousand miles of track, which has occupied recently the attention of the public, and has threatened to produce a suspension of work on that road, has re-opened the question of colour-blindness among railroad employés, and led to a full demonstration of its existence among those engaged even as engine-men, where the defect might lead to serious accidents, with loss of property and life. The officers of the road have selected the system for examination suggested by the writer, and employed to a full success for more than five years past on the Pennsylvania Railroad, and have appointed me to supervise its details, and, as ophthalmological expert, to decide all doubtful cases after careful examination of those found defective by the non-professional examiners of the company.

The conflict is nearly over, since demonstrations of the optical defect in engineers, made before a committee appointed by the employés, have satisfied them of the propriety of the testing, and that the safety of the travelling public demands the removal of all colour-blind persons from positions where their optical defect might be the cause of distressing accidents. In the recent demonstrations, I was able at my office to show that an engine-man declared a red danger-signal, made by placing red glass in front of a large gas-light at a distance of two feet away, to be a green light; he was also not only unable to distinguish a red from a green flag within six feet, but he failed to classify the flags, white, red, green, and blue, properly, even when allowed to take them in his own hands.

The system adopted by the Reading Railroad is the one in use on the Pennsylvania Railroad, and owes its value to the fact that large bodies of employés can be brought under inspection, and their defects discovered by non-professional examiners. It has been fully described in the *Medical News* of January 14, 1882, in the second edition of Nettleship's work on "Diseases of the Eye," and in a paper read before the American Association for the Advancement of Science, in September, 1884, and in the *Popular Science Monthly* for February, 1885, and to those sources the reader is referred for further information.

Previous to its adoption by the officers and directors of the Pennsylvania Railroad, two thousand men were examined, and their blanks submitted to me, and the colour-blind men sent to my office for final action. Mr. Pugh, General Manager, stated, in September, 1884, that there were thus detected four per cent. of men colour-blind, and ten per cent. of men deficient in acuteness of vision, and that, although it was very difficult to keep accurate notes of all examinations, he was satisfied that all dangerous persons had been removed up to that date, when over twelve thousand employés had been submitted to the system.

The statistics obtained upon the two thousand men were used as the standard by all the Divisional Superintendents; and, however difficult it might be to report to the central office the full details of their examinations, they were always controlled by these known and accepted ratios. It has not been found requisite to send all men deficient to the ophthalmological expert, since they did not demand it, but submitted to the changes rendered necessary without opposition; hence, I am unable to furnish exact reports of the examinations made at remote portions of the road. Most of the colour-blind men have passed under my hands, as well as many cases of astigmatism, optical defects, and diseases or injuries reducing the sight below the standard, and the results may some time be found worthy of publication.

An opportunity to present the last opinions of the officers of the Pennsylvania Railroad has been afforded by a request which was made by the German Government, through its Minister, to the Surgeon-General of the United States Army, for statistical and other information on the subject, and this letter, referred to me by the Surgeon-General, has been answered by Mr. Pugh, who has kindly made efforts to obtain the figures from the great organization of which he is General Manager. He writes, under date July 7, 1887, and says:

"I regret that so long a time has elapsed since the receipt of yours of May 25th, and this reply. The delay has been occasioned by our efforts to obtain some statistical information, which I regret to find has not been kept up as closely as was intended. I enclose herewith statements showing the number of employés examined during the past five years, with the results stated.

"I can only add that we have attained the most satisfactory results from the system, and I think we can confidently claim that sense of security which follows the belief, that we have no one employed in any position in which the use of signals is required, whose colour-sense and sense of vision will not enable him to accurately determine all signals by which his action is governed."

Total number examined on lines east of Erie	25,158
Colour-blind	481
Defective vision	661
Hearing	158

I am informed that the system has been found so satisfactory that it has been extended to the lines west of Pittsburg, and no doubt is now in use throughout all the lines controlled by the Pennsylvania Railroad, including seven thousand miles of track and one hundred thousand employés.

It will be remembered that this system is also used to prevent the admission of defective men into the service, and that the apparently small percentage of colour-blind

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in this table may be ascribed to the non-application of men who know their deficiency, and to the fact that men in the service knowing their defect would leave the road before examination, and thus escape detection, and be enabled to gain employment on other roads where no examinations are required. Perhaps twelve or thirteen thousand was the number who were subject to examination by virtue of being in positions where colour-signals were used to direct them, in 1884, and the difference between that number and the total twenty-five thousand would be made up of new men who would present a small ratio of those below the standard, since men conscious of colour-blindness, or poor sight, would not apply.

The fact that the intelligent officers of the Pennsylvania Railroad have adopted this system, purged their old force of all dangerous men, extended its use to all parts of their immense railroad, and now oppose it as a barrier to the admission of men thus unfit for service, is the best evidence that can be adduced to claim for it a successful place among the efforts to render scientific truths of practical value to the world. It is hoped that the Reading Railroad will be sustained in its contest with its employés by the example so quietly conducted by the Pennsylvania Railroad, and that the reform so necessary for the travelling public and for those employés who carry their lives in their hands daily, may be conducted to a happy finish.

WHAT MAKES AIR IMPURE?

DR. VACHER, in an interesting lecture on ventilation, published in the *Sanitary Record*, makes the following remarks on the above subject: If we test the air of a room which, on being entered, smells close, we find it contains upwards of 6 parts in 10,000 carbonic acid, and if the carbonic acid in excess of the initial quantity in the air be from respiration, there is assuredly also present a dangerous quantity of organic vapour. The carbonic acid of respiration is itself scarcely an important impurity; but as it is in nearly constant ratio with the organic matter of respiration, and as the amount is readily determined, it is usually taken as a measure of the impurity of air vitiated by respiration.

Now the air of a room with upwards of 6 parts in 10,000 of carbonic acid present is no longer safely breathable; the room wants ventilating. What extent of change of air would be requisite to make the air of an inhabited room as pure as the outside air? Professor De Chaumont shall answer the question. "The carbonic acid in the air being taken at ·04 per cent., and the carbonic acid of respiration being placed at ·6 cubic feet in an hour, a man placed in a room of 1,000 cubic feet of air, must receive no less than 1,000,000 cubic feet of outside air in an hour to reduce the carbonic acid to the standard (nearly ·0401 per cent.) of the fresh air." In other words, the whole air of the room must be completely changed a thousand times an hour.

It is not necessary to point out that it is quite impossible to do this or anything approaching to it, and that we have to be content with a standard of purity in rooms which is considerably below that of fresh air. The amount of air the best authorities are agreed should be delivered to each healthy male occupant of a room per hour is 3,000 cubic feet. This is, of course, in the daytime. In the evening, when there is a gas jet or lamp burning and vitiating the air, a yet more frequent change will be necessary. Fortunately, air passes pretty freely through brick walls, even after they have been lined with plaster and paper, and a fire, or even the difference of temperature between the air in the room and the external air draws in air, in spite of tight-fitting doors and windows. Pettenkofer found that in a room of 2,650 cubic feet capacity there was a change of upwards of 1,000 cubic feet per hour after doors and windows and crevices had been all pasted up. The temperature of the room was 34 degs. Fahr. higher than the outside air.

How to provide for all the required change of air, without the discomfort and danger of draught, is a question which cannot be answered generally, but must be considered with reference to the circumstances and surroundings of each house—nay, each room. Perhaps the most simple and universally applicable method is Tobin's delivering air into a room at four or five feet from the floor by means of vertical tubes, and Hinckes Bird's placing a piece of wood on the lower portion of each window frame, so as to prevent the upper and lower sashes from meeting, and leave space for an upward current of air between them. It is well, also, to provide a valve-closed opening into the chimney near the ceiling. In a sleeping-room, where there is probably no fire, and nothing to put the air in motion, it is especially necessary to have some arrangement for insuring that the window is always open. I need hardly say that there is no foundation for the popular dread of night air. It is as good as day air—and in towns often far purer. Sleeping with the door open will not supply the sleeper with pure air, but air which is often exceedingly impure. Finally, I must not omit to enter a protest against register grates, especially in bedrooms.

TO CUT GLASS, place it in water on a level with the surface then clip it with a pair of scissors as if it were a piece of paper. To avoid risk, it is better to perform the cutting by taking off small pieces at the corners and along the edges, and to reduce the shape gradually to that required. The softer glasses cut the best, and the scissors need not be very sharp.

MORE PEPPER ADULTERATION. — Among the various modes of pepper adulteration which have recently come before the public one of the commonest is the admixture of artificially rounded and coloured earth or stones to the berries, a mode of sophistication which can be practised with white as well as with black pepper. Parcels of pepper thus adulterated have, it is alleged, been repeatedly sold by public auction lately, at a price so low as to render the *bona fides* of the buyers extremely doubtful.

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"A happy home must be a healthy home."—*Anon.*

SEWER-GAS.

In an editorial article on the subject of the air of sewers, the *New York Medical Journal* refers to the fact that some authorities do not regard sewer-air as of itself usually deleterious, while others attribute to it cases of sickness which have from time to time been reported, and asks how this apparent discrepancy is to be accounted for. Sewer-air is regarded by some sanitarians as dangerous only when it contains the germs of specific diseases; but the many instances in which it has seemed to be the sole cause of persistent sore throats, headaches, and diarrhœal trouble without the development of any well-defined disease would seem to militate against this view.

Dr. Playfair reports a case in the *Lancet* in which serious symptoms were developed in a puerperal woman, which were undoubtedly due to exposure to foul air from the house-drains. In the Proceedings of the Royal Society is a paper on this subject by Professor Carnelly and J. S. Haldane, M.B., in which it is shown that the air of large and well-ventilated sewers is comparatively free from noxious gases, and contains proportionately fewer micro-organisms than the outer air of the same locality. These observers also found that most of the micro-organisms found in the sewer-air were drawn in from the outer air, and not developed in the sewer; that micro-organisms tend to settle instead of remaining in the air; and that, when bubbles of sewage burst, a number of micro-organisms are set free into the air.

The editor of the *New York Medical Journal* states that it has been noticed that illness traced to defective drainage is more frequent in houses where there are holes in the pipes, open joints, or unused fixtures, than where there is simply an absence of traps under fixtures in constant use. Holes in vertical or branch pipes, and open joints, will often be found covered about the edge with slime deposited from fluids that have spurted through the holes during their passage. The outer border of this deposit is often dry and crumbling, and from that point to the edge of the opening will be found all degrees of moisture. He asks whether it may not be that such deposits around holes and lining dry unused pipes are the real breeding-places of the micro-organisms believed to be productive of so much sickness in houses, every outward current of air passing into the room being loaded with them. He calls attention to what is undoubtedly the fact, that pathogenic micro-organisms may produce their injurious results by being swallowed, as well as inhaled, and that the immunity of sewer-men, scavengers, and plumbers may be due to tobacco-chewing, and the ejection of the buccal fluids instead of their deglutition.

The value of bacteriological science was well illustrated recently in the recognition of the cholera microbe, the comma baccillus or cholera spirillum, in cultures obtained from the excreta of cases at the quarantine of New York, which were suspected to be cholera. Such cultures were made by Drs. Biggs, Prudden, Kinyoun, Armstrong, and Weeks, and the microbe was discovered by each one of these investigators, thus determining absolutely the nature of the disease. In a paper on the diagnostic value of the cholera spirillum, read before the Society of Bellevue Hospital Alumni, Dr. Biggs gives a history of his experiments, and states that this is, he believes, the first case in this country where a diagnosis of Asiatic cholera has been based upon biological examinations.

Philicome Pomade.—Wax, ten ounces; rose oil, one pound; sweet almond oil, one pound; cassia, jasmine, and tuberose oil, of each half a pound; oil of orange essential, one drachm. Dissolve the wax in the rose and almond oils, and add the other oil as it cools, stirring all the time.

The "Sanitas" Company's Trade Marks. — Mr. Kingzett writes: "Reports have recently been published of a case heard before Mr. Justice Kay, in which we applied to obtain the registration of our Trade Mark 'Sanitas' in Class III. (being for 'Chemical Substances prepared for use in Medicine and Pharmacy'), and as Mr. Justice Kay, upon certain grounds, declined to accede to our application, many persons have concluded that the word 'Sanitas' is no longer the recognised trade mark of this Company. This is not a correct view of the case. Not only is the word 'Sanitas' registered in Class II. ('Chemical Substances for Sanitary Purposes, such as Deodorants, Disinfectants, and Antiseptics') and in a great number of other classes, but further, we have two other trade marks which are registered in another variety of classes. It may further be stated that we retain to the full our common law right against imitations; indeed, so recently as October 27th last, an injunction was granted, with costs, by the Chancery Division, High Court of Justice, restraining the defendant, &c., from infringing the Company's registered trade mark 'Sanitas' by any use of that term as applied to deodorant, disinfectant, or antiseptic preparations, soaps, and such like substances, and from advertising or selling, &c., any such preparations under the name of 'Sanitas' or 'Sanitant,' or any compound or colourable imitation of the word 'Sanitas.' There is no other 'Sanitas' Company in this country, and there are no other so-called 'Sanitas' preparations in the market but the products of this Company; so that, beyond our registered trade marks we have well-defined common law rights which we are determined to maintain with the utmost rigour. In his judgment, Mr. Justice Kay said: 'If a man has used a word in connection with his goods which has come in the market to be known as a word distinguishing goods made or selected by him, he need not put that upon the Register at all, because he then would have a right to prevent anybody using that word in connection with similar goods, and might obtain an injunction against them.'"

The only Oat-Flour that was awarded Honours at the Sanitary Institute of Great Britain Exhibition, Glasgow, 1883; International Health Exhibition, London, 1884; and New Orleans Exhibition, June, 1885 (Gold Medal).

SCOTT'S MIDLOTHIAN OAT-FLOUR.

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Scott's Midlothian Oat-Flour.—There is no preparation which can be assimilated with greater facility than such a flour as this. Those who suffer from indigestion might substitute for their ordinary breakfast materials this flour, prepared according to the recipe given by Messrs. Scott and printed on the tins.—Ed. Health.

Our Bookshelf

"Reading maketh a full man."—*Bacon.*

GIFT-BOOKS FOR THE NEW YEAR.

MESSRS. GRIFFITH, FARRAN, OKEDEN & WELSH, St. Paul's Churchyard, London, E.C., have certainly distinguished themselves during the present season by the richness of the programme of gift-books they have produced for Christmas and New Year gifts. Among the works to be presently noted every variety of volume is to be found, so that "seniors in the walk of life" who intend to shower literary gifts on the young can have no difficulty in choosing books for children of any age. A well-chosen volume, containing an interesting story, bearing its own useful moral lessons, is a gift whereof the young never weary. In Messrs. Griffith, Farran & Co.'s list there is not a book which may not safely be chosen for the above purpose of edification and amusement.

First on the list come *The Duke's Own*, by J. Percy Groves, and *Perils in the Transvaal and Zululand*, by the Rev. H. C. Adams, M.A.—two volumes certain to captivate boys by their stirring recital of dangers and "par'lous times." *Two and Two; or, French and English*, by the author of "Dethroned," is a tale dealing with French life, and in this way is of educative nature. *A Far-away Cousin*, by Katharine D. Cornish, is emphatically a story for children, the high-toned teaching of which is sure to commend it to parents and others.

Mademoiselle's Story, by Mrs. Ryffel, with illustrations by Miss Rope, is a tale which girls will enjoy. The style of the story reminds us of the attractive writing of the late Mrs. Henry Wood. *My Friend and My Enemy*, by Paul Blake, illustrated by E. C. P., is another boy's book. The details are of stirring character, and will interest its readers in the adventures therein described. *Captain Fortescue's Handful*, by Cecil M. Norris, is a story of motherless children, written with strong dramatic interest. The reader cannot avoid taking a more than ordinary interest in the joys and sorrows of the Fortescue family-circle.

A Country Mouse, by Mrs. Herbert Martin, is a tale for girls, which shows the authoress at her best. In less skilful hands a story such as this would have been of commonplace kind. *In the Land of Nod*, by Ada C. Marzetti, with illustrations by F. C. Gould, reminds us of *Alice in Wonderland*, and of Lewis Carroll's whimsical cleverness as a writer for children. The adventures of Myra with the animals are described in a vein of true humour; and the child who peruses this charming tale will revel in the descriptions of animal comicalities with which it teems. *His Little Royal Highness*, by Ruth Ogden, illustrated by W. Rainey, will rank high among these productions for the young. It is a well-written tale, and the cuts are highly artistic. *Little Margit and Other Stories*, by Mrs. H. M. Paget, will appeal specially to young children; as also will *The Christmas Box* with its large type and splendid illustrations.

The Old Corner Annual for 1888, is notable for the excellence of its engravings as well as for the careful selection of its literary matter—prose and verse alike. "Two Faces Under One Hat"—a charming study of two children—and "Rover's Friends" are examples of its high-class illustrations. The coloured illustrations in *The Christmas Box* above noted and in the *Annual* are also to be commended.

A somewhat novel feature in the way of gift-books for children is *The Little Wonder Box*, containing six wonder stories by Jean Ingelow, beautifully printed in clear type and forming a little library of most entertaining fiction. *The Children's Gallery* is a series of four boxes, each containing eight beautiful coloured plates, delineating the favourites of hearth and home, in the shape of various ages and types of childish beauty. Anything more chaste than these illustrations of "bairns" cannot be found or desired. The whole series forms a picture gallery which will delight every lover of children.

VARIOUS PAMPHLETS.

Grace and Folly; or, Dancing and Dancers, by Edward Scott (London: Ward & Downey), is a very sensible shilling volume on dancing as related to health and social amusement. The author's strictures on vulgarity in dancing are well-deserved, and his book should tend to show clearly that, while dancing as a pastime is susceptible of being abused, it also possesses many characteristics as an agreeable and healthy form of recreation. The author's remarks on "Some little ways of dancers" are worth bearing in remembrance by all frequenters of the ball-room.

Massage and its Applications, by Dr. H. Tibbits (London: J. & A. Churchill), is a pamphlet dealing with a form of treatment which has of late come prominently into vogue. There are many useful hints to be obtained from a perusal of this *brochure;* but surely the author is hardly serious, in these days of therapeutical advance, in quoting with approval a somewhat absurd observation of Lord Coleridge, to the effect that "if you give a man drugs, you make him the arena of a conflict of opposing poisons." This is generalizing with a vengeance. Physicians do not, as a rule, prescribe incompatibles.

Some Observations on Headaches in Children, by W. H. Day, M.D. (London: J. & A. Churchill.) This pamphlet was read as a paper at the late International Medical Congress at Washington. It is a most excellently reasoned argument in favour of the exercise of care in educating children. Dr. Day points out clearly and well "the rocks ahead" in the school career of children. Every parent and teacher should peruse his words.

THE progress in the application of preventive and remedial health measures may be such as to lower our death-rate and improve the dwellings of the well-to-do, but as regards the great mass of the people, the result will simply be an increase in numbers, with a corresponding deterioration of brain and physique. If we add to this the demoralizing influence on the human system produced by the general worrying conditions of the time, from whose baneful operation only a few are exempt, we see in a comparatively near future a nation of men and women with fragile bodies and correspondingly weakened minds. It therefore becomes clear that, willing or unwilling, the sanitarian who is otherwise than benighted must stretch himself out, and take cognizance of what lies beyond his immediate sphere. It is surely for him to take counsel with the social reformer and the political economist, demonstrating to them how he is handicapped by social and economic barriers, and endeavouring to enlist their services on his behalf. It is for him to do his utmost to mould public opinion, and to illumine the path of the practical statesman in his efforts to secure the national weal.

NERVOUS EXHAUSTION.

PULVERMACHER'S World-Famed GALVANIC BELTS for the Cure of NERVOUS EXHAUSTION and DEBILITY, have received testimonials from three Physicians to Her Majesty the Queen, and over Forty Members of the Royal College of Physicians of London.

The distressing symptoms of NERVOUS EXHAUSTION and DEBILITY are speedily removed by means of **PULVERMACHER'S world-famed Galvanic Belts**, which are so arranged as to convey a powerful electric current direct to the affected parts, gradually stimulating and strengthening all the nerves and muscles, and speedily arresting all symptoms of waste and decay.

Dr. VINES, Fellow of the Royal College of Physicians, writes 19th September, 1885: "Having used MR. PULVERMACHER'S BELTS for many years, in the course of medical practice, I am in a position to speak of their great value as a curative agent in cases of nervous disease or functional malady where Electricity is likely to be serviceable. I am entirely convinced of their efficacy."

Dr. C. HANDFIELD JONES, F.R.C.P., F.R.S., Physician to St. Mary's Hospital, says: "I am satisfied that MR. PULVERMACHER is an honest and earnest labourer in the field of science, and I think he deserves to meet with every encouragement from the profession and scientific men."

Dr. GOLDING BIRD, M.D., Physician, Guy's Hospital, says: "I can hardly recommend MR. PULVERMACHER'S INVENTION too strongly to the notice of my medical brethren."

For full Price List and particulars, see New Pamphlet "**GALVANISM: Nature's Chief Restorer of Impaired Vital Energy.**" Post Free from

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INFLUENCE OF TEMPERATURE ON MORTALITY RATES.—With few exceptions, says the *Lancet*, it cannot be argued that a hot season will produce a greater prevalence of any one disease than a period during which the temperature is lower. Scarlet fever, which is at its minimum from January to May, and attains its maximum in October and November, does not appear to have this maximum accentuated by a specially high temperature of the atmosphere. The circumstances which affect its prevalence are evidently not limited to climatic conditions alone, but are more especially those which have led to the accumulation of susceptible persons in a community. Diphtheria, however, which differs from scarlet fever in the particular that it does not appear to protect the infected individual against subsequent attacks, and therefore cannot by its presence or absence affect the amount of susceptibility of the population, is also liable to periodic prevalence, and attains its maximum influence on the death-rate a little later than scarlet fever, although its distribution during the year is more equal than that of the latter disease. The lowness of temperature of the winter months undoubtedly influences the mortality from affections such as measles and whooping-cough, which frequently kill by pulmonary complication. But their prevalence is also seasonal, and the greater number of deaths from the former diseases actually occurs during May and June, when the temperature is much above that of the average of the winter months. Of the acute infectious diseases, the effect of temperature is, perhaps, most marked in its effect upon the prevalence of small-pox, high temperature appearing to be inimical to its diffusion. The class of affections beyond all others which are developed in periods of high temperature are bowel disorders, and especially infantile diarrhœa, which regularly claims its victims after the first few weeks of warm weather, and which develops an especially destructive power, which is directly dependent upon the height of the temperature.

Our Letter-Box

"Conference [maketh] a ready man."—*Bacon.*

NOTICES TO CORRESPONDENTS.

All Communications for the Editorial Department (including Books for Review, Specimens of Sanitary Appliances, &c.), to be addressed to "THE EDITOR OF HEALTH," 2, PATERNOSTER-SQUARE, LONDON, E.C. *Those intended for the Publishing Office to be sent to* MR. A. P. WATT, THE PUBLISHER, *at the same address.*

RULES FOR CORRESPONDENTS.

OWING to the mass of letters which reaches us each week, we respectfully direct the attention of Correspondents, desiring replies in the LETTER-BOX DEPARTMENT of HEALTH, to the following rules:—

1. All questions are answered free of charge in the columns of HEALTH.
2. All letters must be legibly addressed to "The Editor of HEALTH, 2, Paternoster-square, London, E.C.," *and to no other address.*
3. Questions to which answers are desired by post, are so replied to solely at the Editor's discretion. If no answer is sent by post, the query will be replied to in the "Letter-Box" columns of HEALTH. A stamped addressed envelope must accompany all queries to which a private reply is desired.
4. Addresses of physicians and surgeons will, as heretofore, be forwarded FREE to Correspondents on their enclosing a stamped addressed envelope for reply.
5. Correspondents are requested to write on one side of the paper only, and to make their inquiries as brief as may be consistent with clearness.
6. From the necessity of sending HEALTH to press early in the week, no Correspondent can be replied to in the "Letter-Box" columns in the same week in which the inquiry is received. Replies crushed out of any issue will be found in the succeeding number.
7. No Post Cards must be used in sending queries. Violation of this rule deprives the sender of the privilege of a reply.

LETTERS TO THE EDITOR.

THE DEATH OF LADY MARCH FROM SEWER-GAS POISONING.

SIR,—Your remarks in No. 244 of HEALTH are both interesting and important. If it really be true that the death of Lady March was owing to sewage-gas poisoning from the bath waste-pipe next the bedroom she occupied, the question rises—who is or was to blame for this?

Is the proprietor of the house to blame for not getting his drains, soil and waste-pipes tested lately to see if they were in order? Or has this been done, and the work entrusted to some ignorant plumber or engineer, who did not know how to do it properly?

Then, as we are told that the leakage was from the bath waste-pipe, the question again rises—Did the foul air from said waste-pipe merely come from it alone, or did this waste or soil-pipe discharge directly into the drain, and so allow the *drain* air to blow freely into the bath-room, and from thence to the bedroom, through the defective opening? If this latter was the case, why was not the waste-pipe trapped off at its foot from the drain?

We are told that "the waste-pipe from the bath was not trapped," but it does not state definitely what trap is referred to—whether the one that ought to be immediately under the bath or the other, above referred to, at foot of the waste-pipe.

I observe you state that defects in plumbing should be made punishable. Allowing that, who are you to punish? If the defect is owing to tear and wear, or to the inefficient systems in vogue twelve years ago, it would be difficult to get at the *plumber* for such. The real person to blame *now* would be the proprietor or occupier of the house, for not getting it examined recently by a competent party. On the other hand, if the work were lately done, and done badly, then either the plumber was to blame or the person who was overseeing him. The plumber might be to blame if the *workmanship* is bad, but if the *plan* is wrong, then he may not, but the person—clerk of works, engineer, or inspector—over him.

I have been at loggerheads myself with the engineers (who

are not practical plumbers) of one of the sanitary associations on a matter of public interest, and especially to the middle and upper classes, and which bears upon the subject of this letter. The matter is this—A few years since I improved the drainage of a detached villa for its proprietor, the occupier, and did the work upon the isolation or sectional system. That is, first trapping off the house drain from the sewer and ventilating the said drain *per se* with a special high level blow-off pipe put up outside, and thus trapping off the rain, waste, and soil-pipes separately, not allowing any foul air from the drain to go up any of the pipes from the closets or other sanitary appliances in the house. The system has been working satisfactorily since.

The proprietor having been induced to join one of the sanitary associations, has had his house tested several times by its engineer. Upon the last occasion the new engineer testing reported—"Several desirable improvements might be made on the system, due to the advancement of sanitary knowledge, such as the removal of the traps presently at the base of the soil-pipe and at the servants' closet. It is now generally acknowledged that no traps should intervene between the trap on the main outlet and the soil-piping."

Now, the "generally acknowledged" statement appended to the recommendation here is not true, for both Mr. S. S. Hellyer, of London, and myself, in our text-books on Sanitary Plumbing, recommend that, where practicable—as is generally the case in detached houses and mansions, and sometimes in tenements—the soil-pipes, *for greater safety to the inmates*, should be trapped off from the drain, and each ventilated separately with fresh air from the atmosphere, and not with foul air from the drain. As the proprietor in this case did not see where the "improvement" or benefit to him was to come in, he did not adopt the suggested alteration.

As one of many references I could give bearing upon this subject, I may mention, that in 1877 something went wrong about the sanitary fittings in one of the professor's houses at the new University of Glasgow, and I was sent for to see about it. I found that in all the professors' houses the soil-pipes inside the houses acted as ventilating-shafts for the main drain outside, so that when a leak occurred in one of the pipes inside the house the foul air from the main drain blew into the house. So soon as I reported and condemned this, the order was given to trap off all the soil-pipes from the main drain. Now, if this was good for professors' houses, I think it also good for the general public. As the drains of some houses or mansions are two or three hundred feet, or more, long, it becomes a matter of considerable importance to the occupiers of rooms (especially of bedrooms) adjoining the water-closets or soil-pipes, if the foul air from this long drain and from all the other closets' soil-pipes is to have free access to the particular soil-pipe or closet near them. Common sense and my long experience say it should not, and more especially now that so many of the closets are wholly earthenware and liable to be broken by accident, &c., as well as cracked by frost. To have no protection, therefore, except the water-seal of the closet itself is equivalent to lying in bed with a barrel of gunpowder or a box of dynamite below it.

As these sanitary associations have done a considerable amount of good, it is to be hoped that such of their engineers as execute work in the style I have condemned will cease doing so. I am sorry that there has been any necessity for me saying what I have done.—I am, yours respectfully,

W. P. Buchan, R.P.,
Sanitary Engineer.

21, *Renfrew-street, Glasgow.*
December 9th, 1887.

[Mr. Buchan has answered his own query regarding the liability for negligence in plumber-work. It should be easy to punish the responsible person—master foreman, or workman—who "scamps" plumbing work. If the proprietor of a house chooses to allow his drains to fall into disrepair, that, of course, is a matter which concerns himself alone. He and his will probably pay the penalty of negligence either by incurring illness or by death itself. My remarks in Health, No. 244, referred to "scamped" work, and of this notable feature of the plumbing craft we have all seen only too many examples in bygone days. I agree that the public also require education in the matter of what is necessary to render a house healthy; and it is in this light that in Health, from time to time, I am glad to direct attention to the lessons taught by such a sad fatality as that apparently represented by the case of Lady March. Dr. F. T. Bond, I observe, has sent to *Truth* the following excellent remarks on this case:—"In your note on the sad death of Lady March, you attribute her death, with probably good reason, to typhoid fever derived from sewer gas escaping from the waste-pipe of a bath, 'which was not trapped.' Permit me to suggest that the defect in this case was not that the waste-pipe was not 'trapped,' but that it was not effectually cut off from any direct communication with the sewer. To trust to a trap of any kind in such a case is to run the risk of falling, as poor Lady March did, into a death-trap of the worst kind. It is an elementary axiom of sanitary work now-a-days that no waste-pipe of any kind should be allowed to be in unbroken connection with a sewer, and it is simply amazing that in such a house as that in which this unfortunate incident occurred, such a relic of barbarism as a trapped bath-waste should have survived to this day."—Ed. H.]

A COLONEL SAVED.

How a Member of Her Majesty's Service Escaped Destruction.

An all-wise Providence provides a climate in each quarter of the globe particularly suited to the inhabitants of that section, and a change from one to another usually causes disorders of the internal organism that must be carefully watched, else the result will be the contracting of a fatal disease. No worse change is made by an Englishman or Scotchman than to go from his native country to one like India, where the sun shines down with tropical heat for ten months in the year, and where every method of living is so entirely different from what has been the habit at home. It is then that the change is felt most, and aggravated forms of local diseases are the result. The liver and kidneys are the most sensitive organs to these sudden changes, and in them nearly all diseases have their origin. India being in reality a possession of ours, naturally many of our people have interests there, and are obliged to reside for many years in that country of enervating and debilitating climate. How many have returned home, after a few years' residence in the East, total wrecks of their former physical selves? How many, in fact, have returned only to be buried in the soil of their native lands? It is to these and their friends that we "bring glad tidings of great joy;" for one poor sufferer, after years of residence in India, coming home without health or hope, has been enabled to return, with his physical and mental powers restored, and with a knowledge of how to avoid future troubles of a similar character.

A reporter a few days ago called in at Mrs. J. B. Gillander's, View Place House, and during the course of conversation the case in point was referred to, and as it proved both interesting and valuable, we only deem it a duty to give the facts as much publicity as possible.

Lieut.-Col. J. W. Hindle of Her Majesty's service, stationed in India, came home in November, 1883, suffering from kidney and urinary diseases, thoroughly unfitted for service. Mrs. Gillander states that he remained in her house under physician's treatment until July, 1884, but that he received no benefit whatever; in fact, when they all went to the country, Col. Hindle was unable to walk, and had to be carried from place to place. The shampooing treatment was tried, with temporary relief, but no lasting benefit. She then advised him to try Warner's Safe Cure. After taking three bottles an improvement was noticeable in his condition. Continuing the treatment his improvement was so great that in July, 1885, he went before the Army Medical Examining Board, with the hope that he was sufficiently recovered to be allowed to rejoin his regiment. He failed to pass the examination, but had his leave of absence extended two years. He continued the use of the Safe Cure until January, 1887, when he again went before the Examining Board, passed, and at once left for India to join his regiment, six months before his leave of absence expired, taking with him a quantity of the Safe Cure, to use after his arrival. Col. Hindle told Mrs. Gillander that he believed he owed his life to the use of Warner's Safe Cure. Mrs. Gillander states that she herself has used the medicine for dyspepsia and general debility with the greatest benefit.

In substantiation of what is given above, the following letter from Col. Hindle is given. The Col. Hughes referred to is his old commander, now retired and living at Plymouth.

"32, Fountain Hall-road, Queen's Cross,
"Aberdeen, N.B.,
"*February* 2nd, 1887.

"Col. Hughes was so amazed at what he calls the 'marvellous cure' in my case, that he has promised to try Warner's Safe Cure himself. I mean to make everyone try it. I hear that General Rutherford, when he heard that I had passed the Medical Board, has been telling them all at the club here what a wonderful effect the Safe cure has had on me. I stood all my long journeys without the slightest fatigue. J. W. Hindle, Lieut.-Col."

The case of Col. Hindle is not an isolated one, although a severe and stubborn one; still, there are thousands of similar cases that have been cured by this medicine when the patient observed the directions strictly, as did the Colonel. The remedy can be had of all chemists at 4s. 6d. per bottle, or direct of the manufacturers, H. H. Warner & Co., 47, Farringdon-street, London, E.C.

QUERIES AND ANSWERS.

REPLIES: GENERAL, SANITARY, AND MEDICAL.

FRANKLIN.—We have never heard of the system of treatment you name, but, reasoning on general principles, we would advise you against tampering with any such remedies. If you are threatened with consumption, your only wise course is to place yourself in the hands of an experienced physician and be guided by him in the treatment of your case. You cannot possibly, besides, expect to be treated properly by anyone not conversant personally with your state.

G. STREET.—1. Rest after meals, and take five drops of Pure Terebene (Burroughs, Wellcome & Co.'s) after food on a piece of sugar. Avoid excess of vegetables. 2. Masticate your food thoroughly, and avoid such an indigestible food as cheese. Try Dahl's Cakes (advertised in our pages) for constipation; and take stewed fruits, Grant's Oat Flour (in place of tea and coffee), and little butcher meat for a time. See, also, advice given to "Hester" in HEALTH, No. 244. 3. Probably, incompetence of production. The usual phrase is "sterility."

J. RIDLER.—1. We should say massage of the part, and gentle daily friction, night and morning, with a little oil, would help the desired result. 2. Belladonna is regarded as tending to decrease the secretion of milk. There is possibly nothing better which you can use.

LEXICON.—1. Possibly over-study, together with a want of tone in your system at large are sufficient causes of your hair-weakness. The hair and skin together sympathize very closely with the general health. See and follow advice given to "Gospel Oak" in HEALTH, No. 242, and write again if not bettered thereby. 2. Give the lad more fresh air and exercise. There is no universal standard of growth; many persons being constitutionally tall or the reverse.

G. GIRLING.—The climate you name is an excellent one. Full information regarding Los Angelos and California generally is given in HEALTH, Nos. 202, 203, 204, and 205. These numbers may be had from the Publisher on enclosing 2½d. in stamps for each.

FRISCO.—The ailment you mention is, of course, apt to produce many such mental effects as you describe in certain individuals. The remedies you name are not to be recommended. We advise you in such a case to try the effects of absolute rest at the periods named, and the avoidance of all mental and physical excitement. Attend to the general health, rigidly avoiding stimulants. If these general measures fail to relieve the case, there is a probability of some local condition existing, such as requires the personal care of a physician. Such cases vary very greatly in respect of exact cause, and, of course, of appropriate cure also.

B. M.—Sit and rest, with the feet slightly elevated, and have the foot of your bed also raised, so as to favour the return of the blood in the veins. It is probable that a Martin's Bandage, properly applied, would assist you. Bathe the feet night and morning with a lotion made by adding one part Hazeline to three or four parts of cold water.

GIBUS.—Superfluous hairs can only be satisfactorily removed by electrical means. Read the article on this subject in HEALTH, No. 149. We can send, if desired, on receipt of stamped addressed envelope, address of a London specialist who removes hairs in this way.

THE LONDON POSTMEN.

From "The St. Stephen's Review."

There is no class of men on which the business public are more dependent than on the London postmen. They are entrusted with communications of the highest importance, which rarely, if ever, they fail to deliver promptly and in time. These men as a class are sober, industrious, hard-worked servants. From early morning until late at night, in all weathers, they continue to tramp over and over the same route. They become a part and parcel of the business man's existence. This constant walking and exposure in our changeable climate often entails rheumatic difficulties, pains and stiffness in the limbs; yet there can be no cessation from the daily routine of their lives; whether suffering or not, they are obliged to be at their post. It is said that a greater proportion of the London postmen always keep that famous remedy, St. Jacobs Oil, by them, applying it to the muscles after a severe day's work, as a preventative. Others who have received sprains and have been afflicted with severe rheumatic pains have been promptly cured by the application of this remedy. They not only use it upon themselves and families, but recommend it to others. Mrs. J. Brooker, 47, Princes-road, Kennington Cross, London, S.E., the wife of a postman, writes, "I have suffered most agonizing rheumatic pains through my shoulders and the back of my neck for some months past, many times being unable to obtain any sleep at night, which wholly unfitted me for my household duties in the daytime. My husband having heard his fellow-postmen speak very highly of St. Jacobs Oil for sprains and soreness in the limbs, as well as for neuralgia and rheumatism, procured a bottle from the Company's office at 45, Farringdon-road, the contents of which he applied to the afflicted parts, and, to our great surprise and joy, the pain departed almost at once, affording me the first good night's sleep I had been able to obtain for many a night. I consider St. Jacobs Oil an invaluable preparation for pain, and shall always keep a bottle of it on hand. Mr. A. F. Cann, of 31, Swinton-street, Gray's-inn-road, London, W.C., writes: "One morning, on my rounds as postman, I sprained my ancle, and was scarcely able to walk, when I was recommended to use St. Jacobs Oil. I procured a bottle, and before I had used one half the contents I was perfectly cured." Mr. H. Newman, 45, Picton-street, Camberwell, London, S.E., postman, says: "Having suffered from rheumatism in the knee for a period of twelve months, during which time I consulted several physicians and tried many remedies, without receiving any benefit. Being advised to use St. Jacobs Oil, I have much pleasure in saying that it eased the pain directly. I felt it act like an electric battery on me. The contents of one bottle completely cured me, and I can now walk as well as ever. I have no hesitation in recommending St. Jacobs Oil to all suffering from rheumatism, as being a Conqueror of Pain." While the postman's "lot at best is not a happy one," he is undoubtedly saved much pain and discomfort which he would otherwise be obliged to endure were it not for the remedy in question.—[2308.]

L. BERRY.—Paint the corns daily with a lotion, made by adding thirty drops tincture of arnica to a wineglass of water, and apply on lint twice or thrice daily. Or you may paint the corns twice daily with liquor arsenicalis (the latter substance is a poison). Look to your boots and wear them roomy Change your socks frequently, and wash your feet morning and night with Iodoform Soap and tepid water.

A. FULLER.—Try the effects of taking fifteen drops Fer Bravais in water, thrice daily, an hour before your food, and a dessertspoonful of Scott's Cod Oil Emulsion with Hypophosphites, after your meals, thrice daily.

PERCE.—Give up the tonic for a time and take twenty or thirty drops of the Cascara Cordial twice daily between your meals. Eat whole-meal bread, stewed fruits and vegetable, and avoid tea and coffee. Substitute for tea, morning and night, Scott's Midlothian Oat Flour. You must not take aperients as a remedy for constipation, as they only increase the evil.

F. P. M.—Take a dessertspoonful of Scott's Pure Cod Oil Emulsion with Hypophosphites twice or thrice daily after your food as a strengthening measure. Try a warmer residence—the English coast (south-west), such as Torquay or Bournemouth, would suit you. It is probable that a short stay there might cure you, and render your present residence suitable.

MARGERY.—In both cases you will only be safe and adopting a reliable method of cure by consulting a specialist in skin-troubles. If desired, we can send you address of such, on receipt of stamped, addressed envelope.

MEPH.—Read the pamphlet, "A Lecture to Young Men" (post free from Mr. Renshaw, 356, Strand, London, W.C., for 1s. 1d.), and you will find full information therein regarding the tonic and other remedies suitable for restoring your health.

FABER N.—Use Dr. Pierre's Dentifrice Powder and Lotion. The Eau Dentifrice is highly cleansing to the mouth and prevents tooth decay. Use the Powder for cleansing the teeth.

SANITARY ENGINEER.—Shone's system of ejecting sewage is in operation at Eastbourne. The ejectors are worked by compressed air, which, of course, demands engine-power or water-power for its production. The sewage comes into collecting stations, where the ejectors are situated.

R. P.—The plant is the "Ginger Beer Plant," and is probably the *Leuconostæ Mesenteroides*, or "Toad's Spawn" of the botanist. It causes fermentation, with decomposition of sugar and evolution of carbonic acid gas. No alcohol is formed in the process, and there is nothing injurious in the plant or in the liquid you describe as prepared from it.

JOHN PLAYER.—Take the following:—Sulphide of calcium, twenty-four grains; sugar of milk, half an ounce. Mix. Label: "Five grains to be taken every four hours in a little milk or water." This is an effectual remedy for boils.

OFLIS.—At bedtime inhale the vapour arising from an inhaler into which a pint of very hot water has been put, with a teaspoonful of Friar's Balsam added. After meals, take a dessertspoonful of Scott's Pure Cod Oil Emulsion thrice daily.

P. HART.—Avoid tea and coffee, and take Grant's Oat Flour to breakfast and supper; this, with twenty drops of Cascara Cordial, taken in water once or twice daily, an hour before food, will probably relieve you greatly. Avoid solid flesh-food, and

take your meat mostly in the form of strong soups, for making which use Brand's Beef Essences and other preparations. White boiled fish, stewed fruits, milk puddings, &c., may also be tried. Eat only stale or malted bread. Rest after your meals is necessary. You also require more open-air exercise.

R. R.—The fact that you are better in health when you are tricycling and active in habits proves that you should take more open-air exercise in winter. As regards the system of treatment you name, we cannot advise you to try it. It is a quack idea altogether. Try the effect of taking a teaspoonful of Syrup of the Hypophosphites in a wineglass of water, twice or thrice daily, after your meals, as a suitable tonic. If not improved, write again.

C. A. HOWARD.—It cannot, in the first place, possibly be more injurious than ordinary tobacco, and, in the second place, it is likely to be much less so, from the combination of substances it contains, inasmuch as the coca tends to prevent the depressant effect of the tobacco as used alone.

TAFFY.—1. See and follow advice given to "Gospel Oak" in HEALTH, No. 242, and if not bettered, write again. 2. Only a surgeon can determine what should be done in the case of your finger. As you do not indicate the exact cause of the deformity, we are unable to answer your questions more precisely.

SAFE SIDE.—If you will inform us what ailment the medicine you name is required to treat, we will reply to your inquiry.

INTERESTED READER.—1. Any druggist will supply you with the medicine you name, or try any of the stores. 2. Varies in different individuals, but, as a rule, about once a week in a healthy state. The other matter you name is a very different thing, and is not at all comparable with the first-named action.

SEVENTEEN GOLD, SILVER, & BRONZE MEDALS.

WM. WOOLLAMS & CO.,

ORIGINAL MAKERS OF GUARANTEED

NON-ARSENICAL WALL PAPERS.

TO BE OBTAINED OF ALL DECORATORS.

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TOOTH-ACHE

CURED INSTANTLY BY

BUNTER'S NERVINE

Prevents Decay. Saves Extraction. Sleepless Nights Prevented. Neuralgic Head-aches and all Nerve Pains removed by Bunter's Nervine.

All Chemists, 1s. 1½d.

BUNTER'S DENTINE

Is the most Simple & Durable Stopping for Decayed Teeth.

One can easily prepare and place it in the cavity of the Tooth in a soft state, and in a few hours it becomes a perfectly hard and white Enamel, forming as it were a part of the original substance of the Tooth. All Chemists, 1s. 6d.

W. BUXTER.—You must, in the first place, exert strength of mind and overcome the habit. All attempts at cure are useless unless, first of all, you resist temptation, and rise above your lower self. This done, you need fear no evil effects at all. Simply attend to diet-rules, rest after meals, and let your food be light. Adopt the hints given to "P. Hart" in the present number, and take plenty of open-air exercise. Try to engage in cheerful pursuits out of doors, and you will soon get quite well. Steer clear of quacks.

PELL-MELL.—Read the pamphlet recommended to "Meph" in the present number, and follow out the diet-hints it gives. Drink Vichy Water for a time, and avoid alcohol.

A TROUBLED ONE.—You are evidently harbouring very foolish thoughts. We recommend you to think less about your trouble, seeing that the more you worry over it the less likely will you be to recover, and take (after your meals) a teaspoonful of Syrup of the Hypophosphites, in a wineglass of water, thrice daily. If this treatment fails to tone up your system, consult a good physician. Lay your case freely before him. We can send you address of a physician, if desired, on receipt of stamped addressed envelope.

DUFFUS.—Rub a little glycerine of borax into the scalp when the itching continues, use a soft brush only, avoid all small and hard combs, and wash the head twice a week with Iodoform Soap and tepid water. As regards your diet, avoid alcohol, cheese, pastry, and salt foods, and drink Vichy Water regularly for a time. Let us hear the result of this treatment in a few weeks. You might be much the better of trying a vegetable dietary in greater part.

A SUBSCRIBER.—We advise you to try a vegetable dietary. There are symptoms in your case which suggest to us that such a diet may aid your cure materially. The use of Vichy Water (advertised in our pages) will be calculated to relieve your constitutional symptoms. If the cystitis is troublesome, try taking fifteen grains citrate of potash in half a tumbler of water, twice daily, between meals. Write again if not cured.

ON SALE.—30-IN. SUPER HARNESS' BELT. New. Any fair offer accepted.—"BELT," HEALTH Office.

MASSAGE.

DR. STRETCH DOWSE continues his Lectures and Demonstrations on Massage and Galvanism carrying certificate of competency. — Apply, Secretary, 14, Welbeck-street, Cavendish-square.

C. R. AND N. B. R.—See advice given to "A Troubled One" above.

J. BROWN.—You only suffer from nervous irritability, due to the mental cause you indicate. We advise you to try more open-air exercise, and thus see if you can tone up your mental state through your physical state. For the rest, you should try taking fifteen drops Fer Bravais in water, after meals, thrice daily. Read the pamphlet recommended to "Meph" in the present number.

SANITAS.—1. Try applying Thilum to your chilblains or use a lotion (to be labelled, "Poison") consisting of equal parts of soap liniment and tincture of cantharides. 2. Try Borthwick's Winter Cream for the face—see advertisement in our pages.

F. F. B.—Bayley's Lavender Water (17, Cockspur-street, Pall-mall, S.W.) should be used for the face after pressing out the blackheads.

MERA.—1. Dahl's Cakes should be tried (see advertisement in our pages). 2. We recommend you to try Mellin's Food.

MOTHER.—Give the child Woodward's Gripe Water. There is no safer medicine for infants. The pain is caused by flatulence.

SCOTT'S EMULSION

OF PURE COD LIVER OIL

AND HYPOPHOSPHITES

Is three times as efficacious as the plain Oil.

It is almost as palatable as milk.

It does not nauseate or produce a loathing for food like the plain oil.

The Hypophosphites and Oil are so skilfully combined, that they are much more potent in building up flesh and strength than if taken separately, and SCOTT'S EMULSION is to-day the best remedial agent for the cure of

CONSUMPTION, CHRONIC COUGHS, BRONCHITIS, ANÆMIA, WASTING DISEASES OF CHILDREN and GENERAL DEBILITY.

Physicians universally prescribe it in preference to the plain oil, having seen its remarkable curative effects.

Any chemist can supply it at 2/6 and 4/6.

ESTABLISHED OVER SIXTY YEARS.

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J. PULLAR & SONS intimate that in their Works there is every convenience and appliance for Cleaning and Dyeing in the best style the varied and expensive materials in use for Ladies' and Gentlemen's wear, as well as for Household purposes. They direct attention to the superiority of their workmanship, and to the regularity and speed with which articles are returned.

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MELLIN'S FOOD for INFANTS and INVALIDS.

Extract from the report of Dr. A. STUTZER, of Bonn, on "Mellin's Food":—

"Starch is entirely absent, and the carbohydrates present must consequently be easily assimilable. These carbohydrates consist of *maltose-sugar*, *dextrine*, and *milk-sugar*, so well adapted for the nourishment of the infant's organism, whilst cane-sugar, which has an unfavourable action upon children because it produces an excess of acids in the stomach, is entirely absent.

"As the result of my analysis and experiments, I must hold that MELLIN'S FOOD, when properly prepared for use, is very excellent, and fulfils all the requirements of a Food for Infants.

"Bonn, Jan. 23, 1887."

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PRICE 1/6 & 2/6 PER BOTTLE.

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MELLIN'S LACTO-GLYCOSE OR MILK FOOD.

Price 2s. and 3s. per Bottle.

In this preparation Milk is incorporated with the Food in the process of manufacture, thus making it specially suitable where a difficulty exists in procuring fresh cows' milk, as, for instance, on board ship and in hot climates.

Sample and Prospectus on application to the Inventor and Manufacturer,

G. MELLIN, Marlboro' Works, Peckham, S.E.

"Fer Bravais" The Best Tonic.

INVALUABLE FOR GENERAL WEAKNESS OR DEBILITY.

LANCET.—"*Colloid hydrate*" *of iron.* "*Neutral and tasteless solution.*" "*A beautiful and interesting preparation.*"

BRITISH MEDICAL JOURNAL.—"*A remarkably valuable preparation.*" "*Has all the good effects of iron without producing constipation or disturbing the digestion,*" *and* "*does not blacken the teeth.*" "*An eminent London Physician writes to us,* 'I HAVE TRIED IT EXTENSIVELY, AND HAVE GIVEN IT IN CASES IN WHICH NO OTHER FORM OF IRON COULD BE TAKEN. IT IS *the best preparation of iron* I HAVE MET WITH.'"

LONDON MEDICAL RECORD.—"*Tasteless, free from styptic character, a most energetic preparation—the beau ideal of a ferruginous tonic.*"

Sold by all the principal Chemists and Druggists, in Bottles in portable Card Cases, with Drop Measure complete, sufficient for six or three weeks' treatment. Prices, 4s. 6d. and 3s. per Bottle, respectively.

EDWARDS' REAL ARABIAN REVALENTA.

A NATURAL FOOD.

The Best to Promote Health, to Prevent Indigestion and Constipation.

FIRST INTRODUCED BY US IN 1849.

THE REAL ARABIAN REVALENTA is *not a Medicine*, but is a very nutritive farinaceous food, prepared from an Arabian plant, and it has obtained a wide celebrity, on account of its valuable soothing effect, when used as a daily food in cases of Constipation, Dyspepsia, and all other affections of the digestive organs, whether resulting from residence in an unhealthy climate, debility, or peculiarities of constitution. In all such cases its use will fully and completely restore the digestive organs to a vigorous and healthy tone, *in a more speedy and permanent manner than by any other means.*

May be had of all Chemists, &c., at 1s. per lb.; 3 lb. for 2s. 6d.

Or a 12-lb. canister will be forwarded, carriage paid, to any railway station in England, on receipt of a Post Office Order for 10s., by the Manufacturers—

EDWARDS, KITCHING, & CO.,

50, HOLLAND-STREET, BLACKFRIARS-ROAD, LONDON, S.E.

GREAT BODILY STRENGTH.—PEPPER'S QUININE AND IRON TONIC.—By infusing new life and strengthening the muscular system.

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GREAT DIGESTIVE STRENGTH.—PEPPER'S QUININE AND IRON TONIC strengthens the stomach, stopping sinking sensations, removes indigestion, heartburn, palpitation, &c. Bottles, 16 doses, 2s 6d.; next size, 4s. 6d. Sold everywhere. Insist on having PEPPER'S.

PEPPER'S TARAXACUM and PODOPHYLLIN. A fluid combination for derangement of the liver, particularly when arising from slight congestion. By gently stimulating the action of the liver and slightly moving the bowels, the heavy drowsy feeling, headache, pain beneath the shoulders, at the chest after eating, unpleasant taste in the mouth, and manifold other indications of dyspepsia, are removed. Bottles, 2s. 9d. Sold by all chemists.

"SULPHOLINE LOTION."—Clears off all imperfections in a few days. Spots, Blemishes, Irritating Objectionable Appearances, Redness, Roughness, Tan, Uncomfortable Skin Disfigurements, &c., however obstinate, entirely fade away, leaving the Skin smooth, transparent, supple, natural, and healthy. Perfectly harmless. Sulpholine is delightfully fragrant, cooling and refreshing; counteracts effects of weather, softens, and preserves. Bottles, 2s. 9d Sold everywhere.

LOCKYER'S SULPHUR HAIR RESTORER is the safest and best. In a few days it gradually deepens grey hair to a perfectly natural shade. Lockyer's surpasses the effect of costly washes. Never disappointing. Guaranteed harmless. Large bottles, 1s. 6d. Sold everywhere.

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DR. BIRLEY'S ANTI-CATARRH.—A wonderfully efficacious remedy for Colds of every kind; Influenza, Catarrh or Cold in the Head, Sore Throat, and all attacks resulting from a cold or chill. Absolutely harmless and extremely pleasant to take. Order through any Chemist, &c., or direct from the Proprietors E. BIRLEY & Co., 1, Cecil Street, Strand, London.

A CHRISTMAS ODE.

With rosy wealth of joyful health,
This year of grace completing,
To Old and Young, of every tongue,
From THOMAS BEECHAM,

GREETING

Whereas, 'tis known, beyond a question,
That Headache, Bile, and Indigestion,
Have formed a pact of treason
To haunt the gay and festive board,
And plague the peasant, squire, and lord,
Throughout this gladsome season:

NOW THEREFORE

Be it understood
That all such direful ills
May be defied, and cured for good,
By taking **BEECHAM'S PILLS.**

AND FURTHER,

Let the tidings fly,
That Roast Goose, Pudding, and Mince Pie,
Need never be forsaken;
Nor need the wine-cup cease to flow
Because of dread stomachic woe,
If **BEECHAM'S PILLS** be taken!
For, as a priceless blessing sent,
They have a fame undying;
And many a bold advertisement
Has set the good news flying!
Till few there be, in every land,
Who do not own their worth,
Or know not **BEECHAM'S PILLS** command
The LARGEST SALE on earth!

WHEREOF

In further proof, behold
The splendid building—massive, bold,
In stateliest art displayed,
'Tis there, with skill that cannot tire,
There, at St. Helens, Lancashire,
That **BEECHAM'S PILLS** are made!
And still their sway the world shall hail,
Till health no more be wrecked, and fail,
On hidden sands and rocks;
And every voice shall then proclaim
That **BEECHAM'S PILLS,** of golden fame,

ARE WORTH A GUINEA A BOX!

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CAN YOUR FRIEND SING?

IF SO, ASK YOUR DRUGGIST FOR A GRATUITOUS COPY OF

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